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PUBLIC HEALTH AND DEMOGRAPHY IN THE FAR EAST

Report of a Survey Trip
September 13 - December 13, 1948

by
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Foreword

In the ordinary course of its work The Rockefeller Foundation occasionally needs information on present developments or future prospects in certain subjects or areas of Foundation interest. Recently, for example, the Foundation required answers to the following questions: What is the present status of linguistic studies, and what developments are in prospect in this field? To answer questions such as these the Foundation from time to time engages the services of experts in various fields to undertake special studies. The primary and usually the exclusive purpose of these studies is to provide the officers and Trustees of the Foundation with the knowledge which they require in appraising projects for which Foundation aid is sought, or in recognizing lacunae in the fields of scientific research and scholarship.

The present volume presents the results of one such study, in which the efforts of representatives of several disciplines are combined. Dr. Marshall C. Balfour, at the time this study was projected, was Regional Director in the Far East for the International Health Division and was thoroughly familiar with the public health problems of the Far Eastern countries. Mr. Roger F. Evans, Assistant Director for the Social Sciences in the Foundation, had lived for a number of years in China and was familiar generally with political and social factors in Far Eastern life. Dr. Frank W. Notestein and Dr. Irene B. Taeuber of the Office of Population Research, Princeton University, are distinguished demographers. The results of the work of this group have been embodied in a report to the Foundation and should, we think, be made available to the scholars and scientists interested in this subject. A limited edition of the report is now made available, with minor revision to excise the specific recommendations concerning administrative and other problems of The Rockefeller Foundation.,

Chester I. Barnard, President

I. INTRODUCTION

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Desiring a review of the problems of human welfare in the Far East, with special regard for their demographic and public health aspects, The Rockefeller Foundation financed, in the autumn of 1948, a preliminary reconnaissance in selected countries of that region. The group undertaking this survey represented the fields of public health, social science and demography and consisted of the following four persons:

Marshall C. Balfour, Regional Director in the Far East, International Health Division, The Rockefeller Foundation

Roger F. Evans, Assistant Director for the Social Sciences, The Rockefeller Foundation

Frank W. Notestein, Office of Population Research, Princeton University

Irene B. Taeuber, Office of Population Research, Princeton University

The itinerary followed was based on our desire to see as wide a variety of urban and rural situations as time permitted. From September to December, 1948, visits were made to Japan, Korea, China, Taiwan, Indonesia and the Philippine Islands. In each of these areas we inspected facilities, conferred with governmental and academic personnel in the fields of public health and population problems, and endeavored to see representative living and working conditions. A summarized itinerary and a list of organizations and persons interviewed and other activities of the group will be found in the Appendix.

We construed our function of preliminary reconnaissance as involving a general appraisal of the population problems of the region; assessment of the information available for analysis; discussion with, and evaluation of, the people interested in population problems, and exploration with serious students in each country of feasible approaches to solutions.

The survey was made primarily in the interests of The Rockefeller Foundation and the full report submitted to the Foundation included recommendations for its consideration in connection with the policy and program of that organization. By courtesy of the Foundation, the present slightly abridged version is made available privately as a possible service to scholars, officials and others concerned with these problems.

The observations, assessments and analyses herein contained are made on the individual responsibility of the members of the group and they do not necessarily represent in any way the view or judgment of The Rockefeller Foundation.

This report is written on the basis of information acquired in the field or available to us in the United States on or before October, 1949. Names of places are those current at the time of our visit. Finally, we wish to express our gratitude to the many people who assisted our work with unfailing generosity in the midst of difficult and often momentous times. We have found it possible to include only a partial list of their names in the Appendix. To them and to many unnamed colleagues here and in the field go our heartfelt thanks. For all errors of fact, interpretation and judgment we take full responsibility.

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New York, March, 1950

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IV. TAIWAN AND KOREA

THE HERITAGE OF THE JAPANESE EMPIRE

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The preceding chapter showed that although the population problem of Japan Proper is clear-cut, its solution is conjectural. It is the problem of population growth from a current 80 million to a future 100 million or possibly 125 million. It is the problem of an industrial people too numerous to subsist on the products of their own land. Demographically, the Japanese people are in midtransition from the familial values of the rice lands of Asia to the individual values of a Western urban milieu, i.e. from mortality-dominated to fertility-controlled rates of population increase. The Japanese Empire bequeathed more than 80 million Japanese to a land and a culture ill-prepared to maintain them. It also stimulated population growth in all the conquered areas without developing the material base to sustain such growth or the psychological changes to terminate it. Taiwan had 2.6 million inhabitants in 1896 and 5.9 million in 1940. Korea had 14.8 million in 1912 and 24.3 million in 1940. The subject peoples of the Empire as a whole numbered 21.8 million in 1920 and 32.1 million in 1940, an increase of over 10 million or 48 per cent within 20 years.

The process that generated this growth was the same throughout the Empire: the decline of mortality within a social and economic setting that preserved intact the high fertility of the peasant East. This was a necessary by-product of political control and economic development. Today's people, whose numbers have already doubled or trebled, still face a long period of growth checked only by mortality.

Asian imperialism had its positive aspects. The defeated Japanese left to their former colonies the improved agriculture, the incipient industrialization and the roads, railroads and buildings in which the forced savings of the Empire had been invested since the initial conquest of Taiwan. The Japanese also left great university plants to which some "natives" had gone, a more widely diffused literacy than that prevalent elsewhere in the Far East and a substantial number of workers with industrial experience.

The peoples temporarily united under the rule of the Japanese had long histories behind them. They face divergent futures. The Japanese period was an interlude, but the political domination was so complete and the

development plan so uniform that similar demographic consequences resulted from the occupation and similar population problems plague the future. Moreover, for the period of Japanese rule there are censuses and vital statistics of unusual accuracy, for Japan's statistical system was always among the paraphernalia of her export. Hence it is possible in each instance to secure a minimum picture of the population when the Japanese came, to trace its expansion during their rule and to assess the magnitude of the population problem bequeathed to the future.

The description of the demographic impasse of Taiwan precedes that of Korea, for Taiwan is a striking demonstration of demographic principles and problems. Its Chinese people contributed the labor force for the most successful of Japan's colonies. As death rates dropped lower and lower, the population increase approached that geometric pattern which Malthus believed to be the potential of human reproduction. A long series of censuses and vital statistics document this expansion of a Chinese people under almost optimal conditions for population increase. An analysis is sobering, though, for there was only China's ancient pao-chia system to record the demographic aspects of the fluctuations in economy, public health and political cohesion that followed the Japanese withdrawal and the re-establishment of Chinese suzerainty.

The Heritage of Japanese Rule. The City of Taipeh.

TAIWAN (FORMOSA)

Taiwan is a small island of less than 14,000 square miles. Its cultivable land is a narrow plain bordered by mountain ranges extending 250 miles from north to south. Scarcely more than 100 miles to the west are South China's commercial cities and rice lands. Two hundred miles to the south is the Philippine island of Luzon. The Ryukyu Islands and Kyushu lie to the north. This strategic location, combined with the fertile western plain, the tropical climate and the impregnable mountain areas, has made the people of Taiwan pawns of the empires that have fought for the suzerainty of Asia's Pacific littoral.

177 Polynesian peoples inhabited Taiwan for centuries, and perhaps for millenia, unable to develop any effective political organization but sufficiently warlike to prevent the infiltration of peasants from the Mainland. In the sixteenth century the Portuguese came to the Ilha Formosa but did little more than give it the name. The Dutch, who ruled from 1624 to 1661, reported an immigration of Chinese sufficiently strong to be troublesome. This was a period of crisis in China, for the Manchus had replaced the Ming Dynasty in the North and were pushing southward. The exodus of Ming civilians and soldiers across the narrow waters to Taiwan increased until there was a sufficient concentration of strength to capture the Dutch fortresses. In 1683 Taiwan became a district of Fukien Province, a tiny segment of the great Empire of the Manchus.

161 177 The patterns of demographic and economic development that made modern Taiwan evolved in the two centuries of Manchu suzerainty. Population growth was appreciable as immigrants from the crowded provinces of Fukien and Kwantung re-enforced the natural increase of the earlier settlers. By the latter part of the nineteenth century, when Japan had awakened from Seclusion and was ascertaining the areas available for Empire, Taiwan was considered a prize worth acquiring. Three million Chinese peasants were occupied in the production of rice, sugar, camphor, oilcake and other tropical products. "Incidents" occurred, war ensued and the Treaty of Shimonoseki gave Taiwan to the Japanese in 1895.

ECONOMIC DEVELOPMENT

177 433 The economic development of Taiwan required the expansion of health and sanitary facilities that would permit the residence of Japanese and guarantee the expansion of a cheap and docile labor force to produce the agricultural surpluses that were the goal of conquest. The achievement of military and, ultimately, civilian control necessitated roads and transport facilities. These were built before products were available for movement to the coast and shipment to Japan. The cultivated area was expanded, great irrigation systems built, techniques improved, more efficient varieties of rice and sugar developed and fertilizers introduced. Numerous agricultural experiment stations insured the necessary research, while hundreds of Japanese men in the field supervised the productive process from the initial preparation of the soil to the final processing and marketing. The Chinese had

only to furnish their labor and then to give from their limited incomes to pay for the increasingly heavy fertilizer input that insured heavy yields three times a year from the same land. Taiwan was thus transformed into a garden island where only the most venturesome of weeds could grow. Increasing quantities of rice, sugar and tropical products were transported northward to meet the growing food deficits of Japan's increasing population. 177 433

PUBLIC HEALTH AND MEDICAL CARE

The Sanitary Bureau of the Police Department was the authority in public health. Administration and enforcement were supported by police power. In the prewar years there were about 2,000 qualified doctors. Many others were trained in Taiwan and given local licenses. At the end of the war there were some 5,000 to 6,000 local doctors, or almost one per thousand population. Since public posts and private practice were limited, many of these doctors were unemployed. In 1948 about 3,600 physicians were registered as engaged in private practice or public service. There were about 600 nurses and numerous midwives. In both these groups the majority were substandard in grade. The number of hospital beds included approximately 1,000 in the capital and perhaps 6,000 on the Island, most of them in small units. In 1948 effective hospital capacity was less than half this prewar level. 744 759 743 177

Under Japanese control plague was eliminated and cholera and smallpox became rare, although the last two recurred in 1946 to 1947. Tropical diseases are common, malaria in particular. The Japanese had a special malaria service, based on extensive blood examinations, which administered quinine to positive cases. By these means 30 to 40 per cent of the people were examined annually and malaria mortality was reduced by treatment. This suppression improved the health record temporarily, but it did not contribute to permanent amelioration. The program has since been largely discontinued. 177 164 744

THE INCREASE OF THE POPULATION

Population increase paralleled economic expansion. In 1905 there were 3.0 million people on the Island; in 1940, there were 5.9 million. Population thus increased 93 per cent in this 35-year period and virtually all 161 241 177

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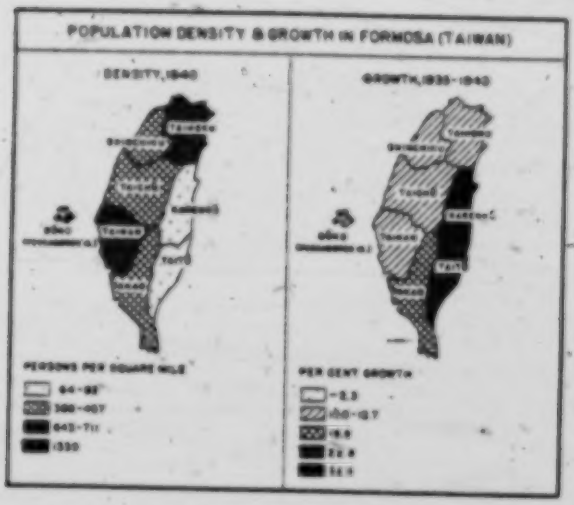

Taiwan, Population Density (1940) and Growth (1935-1940)

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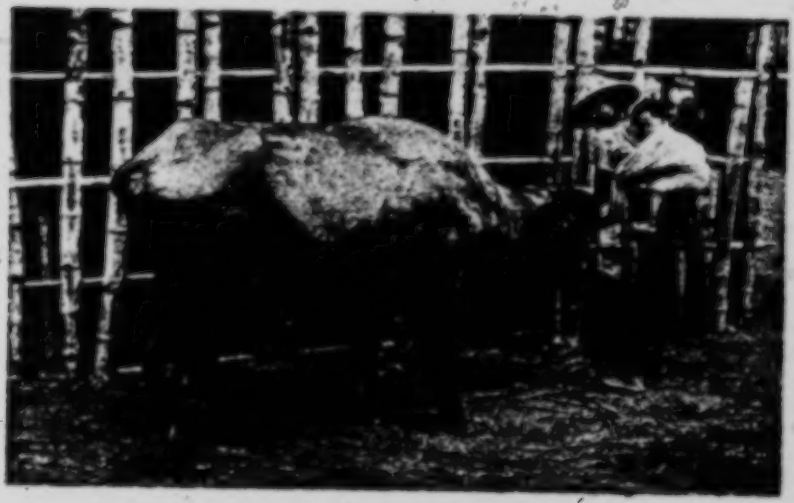

Peasant Scene in Southern Taiwan

this growth was due to the natural increase of the Chinese people. Density of settlement increased to 378 per square mile of total land area in 1935, and to 424 in 1940. This was a high density in a country where 70 per cent of all gainfully occupied men were in agriculture and cultivated land was limited to the river valleys of the northern tip and the fertile areas facing China. Industry was limited largely to the processing and transportation of agricultural products until the war preparations of the Japanese induced rapid industrialization and urbanization in the middle and the late thirties.

In this economic development, Japan's main interest lay in agricultural commodities which enabled her to be less dependent on sources outside of the Empire. The Japanese occupied the major administrative, technical and managerial positions while the Chinese comprised the farmers and the unskilled laborers. The latter were maintained in relative isolation from the outside world with minimum possibilities for economic or cultural advancement. However, an increasing proportion of the children of the Island received elementary education and some even received a secondary education. A select few attended the Imperial University in Taiwan and went on to study in Japan. This cultural leaven was Japanese-oriented to a degree far beyond linguistic adaptation. In fact, the Japanization that had been in process of slow evolution since the initial conquest became a firm policy of forced cultural assimilation by the late thirties.

Here was a classical experiment in the potentiality of the Chinese peasant to reproduce his numbers under favorable conditions. Famines were eliminated and food available for subsistence increased in amount. Epidemics were controlled and the effects of endemic diseases were mitigated. All forces conspired to preserve and to sustain life in so far as possible with known technologies and at minimum cost. The same economic and political ideology insured the continuation of high birth rates. The familial values which had insured survival throughout the millenia in the rice lands of the Mainland were preserved in the isolated peasant villages of Taiwan.

THE DEATH RATE

The demographic paradox of colonialism appeared early in Taiwan. A combination of forces produced a decline in the death rate without either a concomitant or a delayed decline in the birth rate. Recorded death rates

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563 declined consistently from 33 per 1,000 total population in 1906 to 1909, to 20 in 1930 to 1937, with temporary setbacks only during World War I.

Life tables for the Japanese and the Chinese as of 1926 to 1930 place in sharp focus the low economic and health position of the native peoples as contrasted to the alien elite. The expectation of life at birth for males was 38.8 for the Chinese and 48.5 for the Japanese. The excess deaths of the Chinese were concentrated among children. Deaths during the first year of life amounted to 174 for each 1,000 boy babies among the Chinese and only 85 for the Japanese. Only 73 per cent of the Chinese boy babies lived to reach age 5.

The decline in the mortality of the Taiwanese under Japanese domination was appreciable but it did not approach the attainment of the standards deemed minimal in the West. At the end of the Japanese period the expectation of life at birth was perhaps 10 years greater than it was for the people of China or of India when there were no major epidemics or famines. The allocation of a larger portion of the production of the Island to the health, educational and cultural needs of the people could have produced sharp declines in the death rate and hence an even more rapid rate of population increase. An altered distribution of income within the existing technological

Taiwanese Children

matrix could easily have reduced death rates to 12 or 15 per 1,000 total population and, if birth rates had remained at 45, shot the rate of natural increase from 2.5 per cent per year to 3.0 per cent or more. 165 563

THE BIRTH RATE

Neither the extension of cultivation, the increase of yields nor the health and medical activities in Taiwan produced any major changes in the familial patterns of the peasants. The recorded birth rate of the Chinese remained above 40. There were some slight evidences of a lower birth rate in the more prosperous and urbanized provinces, but the social and occupational groups that might have adopted the modern individual and familial values, rather than the traditional Eastern values, were few in numbers. 163

The growth implicit in the maintenance of fertility at the level that existed in Taiwan during the last decade of Empire was indeed rapid. The gross reproduction rate for the entire population was over 3.2 and the net rate over 2.0.

It is obvious that no population dependent on agriculture and inhabiting a limited and already densely settled area could reproduce indefinitely at the rate implicit in these figures. Potential growth was more rapid than the actual growth of the thirties, though, for any social and economic changes that would improve levels of living and contribute ultimately toward a reduction in fertility would produce immediate and more rapid declines in the death rate.

THE PROSPECTS: PREWAR JAPANESE VIEW

The balance between the people and the land in prewar Taiwan may have appeared precarious to the Western student but the Japanese foresaw many decades of further expansion before the Malthusian pressures of the people on the food supply would limit either population growth or exportable surpluses. Rice production had increased from 2.1 million koku in 1900 to 4.9 million in 1923 and 9.7 million in 1940. In the latter year the export surplus amounted to five million koku. By 1950 rice production would amount to 12.8 million koku and the quantity available for export to Japan Proper would increase by almost a million koku. 433 241 439

The Japanese also realized that Asian hegemony implied a destiny beyond the agrarian for the once subject peoples and that Japan's own demographic

433 241 439 resources would have to be supplemented by the integration of Taiwanese and Koreans into the industrial nexus of Empire.

THE CONTEMPORARY PROSPECTS

178 727 Today the plans of the Japanese for the further development of Taiwan are somewhat irrelevant. The Chinese administration has penetrated every aspect of political, social and economic life. Initially the transfer of sovereignty resulted in sharp retrogressions. The great war industries were destroyed. The Japanese army departed, but Chinese soldiers from the Mainland now use the island for training to repel an invasion expected from the Mainland. The land is cultivated but the agricultural supervisors have been repatriated to Japan. In October, 1948, when we were in Taiwan, there were markets for surpluses that would yield funds to purchase the fertilizers essential to the maintenance of production. Disease and premature mortality were reported to be increasing. All this was descriptive, for statistics were a casualty of the liberation. Bureaucrats and university professors had been moved back to Japan and Japanese policy had produced totally inadequate numbers of Taiwanese to take their places.

177 198 The political travesty of the Chinese liberation of the Chinese population of Taiwan needs no recapitulation. It placed almost insuperable obstacles before even the most reasonable programs and the most capable administrators. Furthermore the Taiwanese were now a peculiar Chinese-Japanese cross-product and the cultural heritage of the half century of occupation complicates all aspects of Chinese-Taiwanese adaptations. The Taiwanese spoke Hakka or Fukienese, neither comprehensible to the other; the Mainland Chinese spoke Mandarin, which was incomprehensible to the Taiwanese who spoke either Hakka or Fukienese. So Japanese became the *lingua franca* between Chinese groups.

Had Taiwan been reintegrated into a functioning Republican China it seems probable that inundation from the Mainland would have reduced the Taiwanese to Chinese levels of living and absorbed their particular population problem into one of the greatest of all population problems, the demographic prospects of a modernizing and industrializing China. Today the future of the Taiwanese people is unpredictable. They are again pawns in a struggle for control of the East.